03050103-090

(Rocky Creek)

General Description

Watershed 03050103-090 is located in Chester and Fairfield Counties and consists primarily of ***Rocky Creek*** and its tributaries. The watershed occupies 127,872 acres of the Piedmont region of South Carolina. The predominant soil types consist of an association of the Wilkes-Pacolet-Cecil-Madison series. The erodibility of the soil (K) averages 0.24; the slope of the terrain averages 10%, with a range of 2-40%. Land use/land cover in the watershed includes: 79.8% forested land, 10.0% agricultural land, 7.9% scrub/shrub land, 1.7% urban land, 0.2% barren land, and 0.4% water.

Rocky Creek originates near the Town of Chester and accepts drainage from Grassy Run Branch, Bull Run Creek, Hooper Creek (Melton Branch), Barbers Creek (McDaniels Branch, Waters Branch), and Bull Skin Creek. Further downstream, Beaverdam Creek enters Rocky Creek followed by Little Rocky Creek (Shannon Creek, Bell Creek (Stover Creek), Hodges Branch, and Turkey Branch. Rocky Creek drains into Cedar Creek Reservoir near the Town of Great Falls. There are a total of 260.5 stream miles in this watershed and numerous lakes and ponds (totaling 269.3 acres), all classified FW.

Water Quality

Station #	Type	Class	Description
CW-088	S	FW	GRASSY RUN BRANCH AT SC 72 1.6 MI NE CHESTER
CW-002	P/BIO	FW	ROCKY CREEK AT S-12-335 3.5 MI E OF CHESTER
CW-067	BIO	FW	LITTLE ROCKY CREEK AT S-12-144
CW-691	BIO	FW	BEAVERDAM CREEK AT S-12-555
CW-236	W	FW	ROCKY CREEK AT S-12-138
CW-175	S	FW	ROCKY CREEK AT S-12-141 SE OF GREAT FALLS

Rocky Creek - There are three monitoring sites along Rocky Creek. At the upstream site ***(CW-002)***, aquatic life uses are partially supported based on macroinvertebrate community data, compounded by a significant decreasing trend in dissolved oxygen concentrations, a significant increasing trend in total nitrogen, and a very high concentration of zinc measured in 1995. There is also a significant decreasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions, compounded by a significant increasing trend in fecal coliform bacteria concentrations.

Aquatic life uses are fully supported at the next site downstream ***(CW-236)***, but recreational uses are not supported due to fecal coliform bacteria excursions. Aquatic life uses are also fully supported at the downstream site ***(CW-175)***. There is a significant decreasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions.

Grassy Run Branch (CW-088) - Aquatic life uses are not supported due to dissolved oxygen excursions, compounded by a significant decreasing trend in dissolved oxygen concentrations. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for

these parameters. Recreational uses are not supported due to fecal coliform bacteria excursions; however a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Beaverdam Creek (CW-691) - Aquatic life uses are partially supported based on macroinvertebrate community data.

Little Rocky Creek (CW-067) - Aquatic life uses are fully supported based on macroinvertebrate community data.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)*** ***COMMENT***	***NPDES#*** ***TYPE*** ***LIMITATION***
ROCKY CREEK CITY OF CHESTER/ROCKY CREEK PLT PIPE #: 001 FLOW: 1.36 PIPE #: 001 FLOW: 2.0 (PROPOSED) WQL FOR BOD_5, NH3-N, TRC, DO	SC0036056 MAJOR DOMESTIC WATER QUALITY WATER QUALITY
ROCKY CREEK SPRINGS IND./KATHERINE PLANT PIPE #: 001 FLOW: M/R	SCG250041 MINOR INDUSTRIAL EFFLUENT
ROCKY CREEK TRIBUTARY ESSEX GROUP, INC. PIPE #: 001 FLOW: 0.0091	SC0040941 MINOR INDUSTRIAL EFFLUENT
ROCKY CREEK TRIBUTARY WILLAMETTE INDUSTRIES/CHESTER DIV. PIPE #: 001 FLOW: 0.015	SCG250044 MINOR INDUSTRIAL EFFLUENT
GRASSY RUN BRANCH SPRINGS IND./EUREKA PLANT PIPE #: 001 FLOW: M/R	SCG250138 MINOR INDUSTRIAL EFFLUENT
GRASSY RUN BRANCH BORDEN INC./CHESTER PLANT PIPE #: 001 FLOW: M/R	SCG250038 MINOR INDUSTRIAL EFFLUENT

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

SOLID WASTE LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
WILLAMETTE INDUSTRIES INDUSTRIAL	123301-1601 (IWP-188) ACTIVE
CHESTER COUNTY C&D LANDFILL CONSTRUCTION	121001-1101 (DWP-081) CLOSED
CHESTER COUNTY C&D LANDFILL CONSTRUCTION	121003-1201 ACTIVE
CHESTER COUNTY TRANSFER STA. MUNICIPAL	121001-6001 --------

Growth Potential

This watershed contains portions of the Towns of Richburg and Great Falls, and the City of Chester. Growth extends north and east of Chester, along York Road and S.C. 72. Industrial, residential, and commercial growth has occurred in the Richburg area, associated with the I-77/S.C.9 interchange and the presence of utilities in that area. Water service is available in the Chester area, along S.C. Hwy. 9 through Richburg, and down S.C. Hwy. 99 to Great Falls. Sewer service exists in the Chester and Richburg areas. The presence of I-77 will have an impact on future growth in the watershed, especially the Richburg area. Another important transportation artery is S.C. Hwy. 9, portions of which are currently being widened to four lanes. The remainder of the watershed is rural and should see scattered development in the future.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

A TMDL for fecal coliform has been developed by SCDHEC and approved by EPA for **Grassy Run Branch** water quality monitoring site CW-088. The TMDL states that an 86% reduction in fecal coliform loading from urban areas is necessary for the stream to meet the recreational use standard. Implementation of this nonpoint source TMDL will include the use of voluntary best management practices (BMPs) and other measures. Grant funding through SCDHEC may be available to aid in BMP implementation.

Special Projects

NPS Assessment and TMDL for Phosphorus in the Catawba River Basin

SCDHEC has contracted with the University of South Carolina to quantify relationships between land use and water quality in the Catawba River Basin. The project will evaluate these relationships using

the WARMF model, which will be used to develop a TMDL for total phosphorus in Fishing Creek Reservoir, Cedar Creek Reservoir, and Lake Wateree. The TMDL is being developed in cooperation with the North Carolina Division of Water Quality and will involve stakeholders in the basin. Additional information about the TMDL development process can be found in Appendix B.